

IN THE CLAIMS:

The pending claims are set forth below and have been amended and/or cancelled, without prejudice, where noted:

1-14. (canceled)

15. (Previously Presented) A metallocene catalyst component characterized by the formula: $(\text{FluR}''\text{Cp})\text{M}(\eta^3\text{C}_3\text{R}'_5)(\text{ether})_n$ wherein Cp is a substituted or unsubstituted cyclopentadienyl group, Flu is a substituted or unsubstituted fluorenyl group, R'' is a structural bridge between Cp and Flu imparting stereorigidity to the component, M is a metal Group III of the Periodic Table, each R' is the same or different and is hydrogen, a silyl group or a hydrocarbyl group having from 1 to 20 carbon atoms and n is 0, 1 or 2.

16. (Currently Amended) The metallocene catalyst component of claim 15 wherein M is yttrium or, lanthanum, ~~neodymium or samarium~~.

17. (Previously Presented) The metallocene catalyst component of claim 15 wherein M is yttrium.

18. (Previously Presented) The metallocene catalyst component of claim 17 wherein R'' an isopropylidene group, a diphenylmethylene group, an ethylenyl group or a dimethylsilyl group.

19. (Previously Presented) The metallocene catalyst component of claim 18 wherein R'' is an isopropylidene group.

20. (Previously Presented) The metallocene catalyst component of claim 19 wherein $\text{C}_3\text{R}'_5$ is $\text{CH}_2\text{—CH=CH}_2$.

21. (Currently Amended) The metallocene catalyst component of claim 17 wherein said ether group is selected from the group consisting of tetrahydrofuran, dioxane, diethyl ether ~~oxide~~ and diisopropyl ether ~~oxide~~.

22. (Currently Amended) The metallocene catalyst component of claim 21 wherein said ether group is tetrahydrofuran or diethyl ether oxide.

23. (Previously Presented) In the preparation of a metallocene catalyst component characterized by the formula: $(\text{FluR}''\text{Cp})\text{M}(\eta^3\text{C}_3\text{R}'_5)(\text{ether})_n$ wherein Cp is a substituted or unsubstituted cyclopentadienyl group, Flu is a substituted or unsubstituted fluorenyl group, R'' is a structural bridge between Cp and Flu imparting stereorigidity to the component, M is a metal Group III of the Periodic Table, each R' is the same or different and is hydrogen, a silyl group or a hydrocarbyl group having from 1 to 20 carbon atoms and n is 0, 1 or 2, the process comprising: (a) providing a suspension of $\text{MCl}_3(\text{THF})_n$ in an ether; (b) providing a suspension of a dilithium salt of $(\text{CpR}''\text{Flu})$ in an ether; (c) reacting suspensions (a) and (b) at molar ratio of suspension (b) to suspension (a) of less than 2 in a salt metathesis reaction at a temperature of from -80°C to 60°C ; (d) crystallizing the product of said salt metathesis reaction from said ether in the form of a crystalline powder; (e) recovering said crystalline powder and alkylating said crystalline powder with an alkylating agent incorporating $(\text{C}_3\text{R}'_5)$ in a solvent at a temperature of from -80°C to 60°C , to produce said metallocene catalyst component; and (f) retrieving a neutral complex of said metallocene catalyst component.

24. (Previously Presented) The method of claim 23 wherein the molar ratio of suspension (b) to suspension (a) is about 1.

25. (Currently Amended) The method of claim 23 wherein said alkylating agent is selected from the group consisting of $\text{ClMg}(\text{C}_3\text{R}'_5)$ and $\text{Li}(\text{C}_3\text{R}'_5)$.

26. (Previously Presented) The method of claim 23 wherein said salt metathesis reaction is carried out at a temperature of about 20°C .

27. (Currently Amended) The method of claim 23 wherein the ether is tetrahydrofuran or diethyl ether oxide.

28. (Previously Presented) The method of claim 23 wherein the solvent is toluene.

29. (Previously Presented) A polymerization process comprising: (a) providing a catalyst system effective for the polymerization of ethylenically unsaturated monomers which catalyst system comprises a metallocene catalyst component characterized by the formula: $(\text{FluR}''\text{Cp})\text{M}(\eta^3\text{C}_3\text{R}'_5)(\text{ether})_n$ wherein Cp is a substituted or unsubstituted cyclopentadienyl group, Flu is a substituted or unsubstituted fluorenyl group, R'' is a structural bridge between Cp and Flu imparting stereorigidity to the component, M is a metal Group III of the Periodic Table, each R' is the same or different and is hydrogen, a silyl group or a hydrocarbyl group having from 1 to 20 carbon atoms and n is 0, 1 or 2; (b) contacting said catalyst system with an ethylenically unsaturated monomer in a polymerization reaction zone under polymerization conditions to form a polymer product; and (c) recovering said polymer product from said polymerization reaction zone.

30. (Currently Amended) The process of claim 29 wherein said monomer is a non-polar monomer selected from the group consisting of ethylene, a C₃+ alpha olefins, and styrene.

31. (Currently Amended) The process of claim 29 wherein said monomer is a polar monomer selected from the group consisting of a methacrylate and a diene.

32. (Currently Amended) The process of claim 29 wherein in said metallocene catalyst component M is yttrium or, lanthanum, ~~neodymium or samarium~~ and R'' an isopropylidene group, a diphenylmethylene group, an ethylenyl group or a dimethylsilyl group.

33. (Previously Presented) The process of claim 32 wherein in said metallocene catalyst component C₃R'₅ is CH₂—CH=CH₂

34. (Currently Amended) The process of claim 33 wherein in said metallocene catalyst component said ether group is selected from the group consisting of tetrahydrofuran, dioxane, diethyl ether ~~oxide~~ and diisopropyl ether ~~oxide~~.